

I CLAIM AS MY INVENTION:

1. A combined apparatus comprising:
an apparatus for acquiring radiographic projection images in a first examination region;
an apparatus for acquiring tomographic image datasets in a second examination region;
said first examination region of said apparatus for acquiring radiographic projection images including at least a part of said second examination region of said apparatus for acquiring tomographic image datasets, giving said first and second examination regions a fixed spatial relation to each other; and
said apparatus for acquiring radiographic projection images being operable to acquire a plurality of radiographic projection images in said first examination region and for generating, from said plurality of radiographic projection images, a three-dimensional reconstruction of said first examination region correlatable with said second examination region based on said fixed spatial relation.
2. A combined apparatus as claimed in claim 1 wherein said apparatus for acquiring tomographic image datasets is a particle emission tomographic acquisition system.
3. A combined apparatus as claimed in claim 2 wherein said particle emission-tomographic acquisition system is a single photon emission computed tomography system.
4. A combined apparatus as claimed in claim 2 wherein said particle emission-tomographic acquisition system is a positron emission tomography system.

5. A combined apparatus as claimed in claim 1 wherein said apparatus for acquiring tomographic image datasets is a functional magnetic resonance apparatus.

6. A combined apparatus as claimed in claim 1 wherein said apparatus for acquiring radiographic projection images is a 3D C-arm x-ray apparatus.

7. A combined apparatus as claimed in claim 1 wherein said apparatus for acquiring tomographic image datasets has a housing, and wherein said apparatus for acquiring radiographic projection images is disposed outside of said housing and in a fixed spatial relation to said housing.

8. A combined apparatus as claimed in claim 7 comprising a common housing containing both said apparatus for acquiring radiographic projection images and said apparatus for acquiring radiographic projection images.